

KRUSHEVSKAYA, G. M. Cand Med Sci -- (diss) "Antituberculosis consulting rooms  
of joint children's hospitals as a dispensary form of the <sup>control of</sup> ~~struggle~~ against  
tuberculosis among <sup>young children</sup> ~~infants~~." Simferopol', 1959. 18 pp (Crimean State Med  
Inst im I. V. Stalin), 200 copies (KL, 52-59, 125)

KRUSHEV, L.T.

Resin ducts in the buds and shoots of pine. Bot.; issl. Bel. otd. VBO  
no.6:213-221 '64.  
(MIRA 18:7)

L 2080-66

ACCESSION NR: AF5027215

BU/0016/65/000/001/0035/0036

AUTHOR: Nakov, N.; Krusheva, L.; Panter, L.

TITLE: Incidence of rheumatic fever and beta-hemolytic streptococci among the workers of the State Printing House "G. Dimitrov" 16  
B

SOURCE: Suvremenna meditsina, no. 1, 1965, 35-36

TOPIC TAGS: disease incidence, bacteria, circulatory system disease

ABSTRACT: In view of the fact that 31 (3.3%) of the 923 employees of the State Printing House in Sofia had been hospitalized due to rheumatic fever recently, a examination of 200 workers from 5 shifts was carried out; beta-hemolytic streptococci were isolated from 22 of these, all being considered carriers. Treatment with the Bulgarian preparation benzatillin and quartz lamp irradiation was considered effective. Orig. art. has 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: 18

NO REF SOV: 000  
Card 1/1 JPES

OTHER: 000

L 02215-67 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JH  
ACC NR: AR6022148

SOURCE CODE: UR/0276/66/000/002/G013/G013

AUTHOR: Krushenko, G. G. ; Mishin, A. S. ; Krushenko, L. I.

TITLE: Effect of natural aging and thermal treatment on the mechanical properties of aluminum-zinc alloys

SOURCE: Ref. zh. Tekhn mashinostr, Abs. 2G102

REF SOURCE: Sb. Lit'ye metalloved. i obrabotka met davleniyem. Krasnoyarsk, 1965, 15-20

TOPIC TAGS: aluminum containing alloy, zinc containing alloy, natural aging, mechanical heat treatment, thermal treatment, mechanical property

ABSTRACT: Aluminum alloys containing 3% and 10% zinc were repeatedly overheated to 900 and 950C and cooled to 700 and 730C by mixing "hot" and "cold" portions of the alloy, slow air cooling, or by rapid cooling with a hard alloy of the same composition. The alloys were cast into flat ingots and aged for 3 years at room temperature. The effect of natural aging was most pronounced in the alloy containing 10% zinc. In the natural aging of this alloy, the tensile strength  $\sigma$  and HB increased while elongation decreased. In overheating to 900C the increase in

Card 1/2

UDC: 669.715

L 02215-67

ACC NR: AR6022148

0  
tensile strength after aging was higher than that following overheating to 950C. The alloy containing 3% zinc has a lower tensile strength and HB but, higher elongation as compared with the alloy containing 10% zinc. The aging of alloy with 3% zinc leads to a decrease in tensile strength and an increase in HB and elongation [8.. E. Kadaner. [Translation of abstract].

SUB CODE: 11/

Card 2/2 *LC*

EWI(1)-/EWI(1)/EXT(1) JK  
APR 11 1970

typhus epidemiology in Semipalatinsk

Journal mikrobiologii, epidemiologii i immuniteta, 1969, 11, 1-10

typhus, epidemiology, Semipalatinsk, typhus, typhus  
typhus

Journal mikrobiologii, epidemiologii i immuniteta, 1969, 11, 1-10

typhus, epidemiology, Semipalatinsk, typhus, typhus

L 59484-65

ACCESSION NR: AP5011270

the periods of haying, harvesting and other farm activities. 2  
Tularemia cultures were repeatedly isolated from *Neotoma* water rats  
along the river. In 1964, the

KRUSHEV, L.

Problems and trends in the development of electrolytic metallurgy.  
Mashinostroena 12 no.2:44-45 F '63.



KRUSHEV, L.

Chromium plating of aluminum alloy cylinders for motorcycles.  
Mashinostroene 13 no.12;26-29 D '64.

1. Central Scientific Research Institute of Technology and  
Machinery, Sofia.

VORONTSOV, Aleksey Ivanovich; KRUSHEV, L.T., kand. biol. nauk;  
SAZONOVA, G.V., kand. biol. nauk; KAMYSHEVA, V.S., red.;  
GOROKHOVA, S.S., tekhn. red.

[Forest entomology] Lesnaia entomologiya. Moskva, Vysshaya  
shkola, 1962. 347 p. (MIRA 16:6)

1. Kafedra lesozashchity Moskovskogo lesotekhnicheskogo in-  
stituta (for Krushev, Sazonova).  
(Forest insects)

NAKOV, N.; KRUSHEVA, L.; PANTEV, L.

Incidence of rheumatism and beta-hemolytic streptococci  
among the workers of the "Georgi Dimitrov" printing  
office. Suvr. med. (Sofia) 12 no.1:25-36 1965.

KIRISTOV, M.A.; KRUSHEVA, R.; NIKOLOV, Khr.

Organogenesis of *Nardus stricta* L. Izv Tsentral lab genet 1:139-148 '63.

3/275/63/000/003/008/021  
A052/A126

**AUTHORS:**

Akerman Karol', Brafman Marek, Krushevskaya Ol'ga,  
Krushevskii Klemens

**TITLE:**

Production of high-purity synthetic silicon oxide with the  
purpose of using it in semiconductor engineering

**PERIODICAL:**

Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 3,  
1963, 10, abstract 3B70 (Rept. Inst. badan jadrow. PAN, no.294,  
1961, 16 pp, 111.) (Summaries in Polish and German)

**TEXT:**

At first the paper discusses published data relating to  $\text{SiO}_2$   
production by means of silicon tetrachloride hydrolysis, and the methods of  
purifying  $\text{SiCl}_4$  and  $\text{SiHCl}_3$  from admixtures. Experiments are described in  
which radioactive isotopes  $\text{P}^{32}$  and  $\text{Fe}^{59}$  were applied to determining the  
effectiveness of individual processes of  $\text{SiCl}_4$  and  $\text{SiHCl}_2$  purification.  
Further, based on experimental data, the authors developed a technological  
scheme of multistage process of  $\text{SiCl}_4$  purification and of high-purity

Card 1/2

Production of high-purity .....

S/275/63/000/003/008/021  
A052/A126

silicon oxide production for the semiconductor industry, There are 31 references.

B.G.

[Abstracter's note: Complete translation.]

Card 2/2

AKERMAN, Karol; BRAFMAN, Marek; KRUSHEVSKA, Olga (Kruszewska, Olga);  
KRUSHEVSKI, Klemens (Kruszewski, Klemens)

Isotopic investigation of the effectiveness of various methods of purifying trichlorosilane and silicium tetrachloride used to obtain silicon and silica of high degree of purity. Nukleonika 7 no.10:635-648 '62.

1. Institut yadernykh issledovaniy PAN, Varshava, Otdel  
Primeneniya izotopov v khimii i khimicheskoy tekhnologii.

KRUSHEVSKAYA, D.P. [Krushevs'ka, D.P.]; SAKHARNAYA, R.Ya. [Sakharna, R.IA.];  
MIGAY, M.M. [Mihai, M.M.]; KHUDIN, O.S.

Manufacture of regular knit outerwear on cotton machines. Leh.prom.  
no.4:12-15 O-D '62. (MIRA 16:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut po pererabotke  
iskusstvennogo i sinteticheskogo volokna (for Krushevskaya, Sakharnaya,  
Migay). 2. Kiyevskaya trikotazhnaya fabrika No.2 (for Khudin).  
(Knitting machines)



KRUSHEVSKAYA, D.P. [Krushevs'ka, D.P.]

Method for calculating the weight of weft-knit fabrics made from  
fancy-doubled yarn. Leh.prom. no.4:64-67 O-D '62. (MIRA 16:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut po pererabotke  
iskusstvennogo i sinteticheskogo volokna.  
(Knit goods industry)

KEUSHEVSKAYA, G.M.

Some indications of the lowered infectivity of tuberculosis in  
children in Crimea and Simferopol. Probl.tub. 38 no.4:25-27  
'60. (MIRA 14:5)

(CRIMEA—TUBERCULOSIS)

KRUSHEVSKAYA, G. M., kand. med. nauk

Treatment of the initial forms of tuberculosis in children from the younger age groups. Probl. tub. 40 no.5:51-56 '62.

(MIRA 15:7)

1. Iz kafedry detskikh bolezney (zav. - dotsent K. V. Shalupenko)  
Krymskogo meditsinskogo instituta (rektor - dotsent S. I.  
Georgiyevskiy)

(TUBERCULOSIS)

KRUSHEVSKAYA, G.M. [Krunhova'ka, H.M.], kand. med. nauk

Effect of exposure on the forms and course of tuberculosis in children. Ped. akush. i gin. 24 no.6:12-15 '62. (MIRA 17:4)

2. Kafedra detskikh bolezney (zaveduyushchiy - dotsent K.V. Shalupenko) Krymskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent S. I. Georgiyevskiy [Georgiyevs'kiy, S.I.]) i protivotuberkuleznyy kabinet 1-oy detskoy klinicheskoy bol'nitsy g. Simferopolya (glavnyy vrach K.K. Khotayeva [Khotieieva, K.K.]).

BARANOVSKIY I.M.; GRITSAY, Z.N.; BUNIMOVICH, A.G.; KRUSHEVSKAYA, K.F.;  
ANSHITS, V.I.

Epidemiology of tularemia in Semipalatinsk Province. Zhur.mikrobiol.,  
epid. i immun. 42 no.4:14-18 Ap '65.

(MIRA 18:5)

1. Semipalatinskiy meditsinskiy institut i Semipalatinskaya  
oblastnaya sanitarno-epidemiologicheskaya stantsiya.

S/081/62/000/023/057/120  
B160/B186

AUTHORS: Akerman, Karol', Brafman, Marek, Krushevskaya, Ol'ga,  
Krushevskiy, Klemen's

TITLE: Production of high-purity synthetic silicon dioxide for use  
in semiconductor technology

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 457, abstract  
23K122 (Rept. Inst. badań jądrow. PAN, no. 294, 1961, 16 pp.,  
illust. [Summaries in Pol. and Ger.] )

TEXT: A review is given of known methods of producing high-purity  $\text{SiO}_2$ .  
 $\text{P}^{32}$  and  $\text{Fe}^{59}$  were used to check experimentally the effectiveness of  
purifying  $\text{SiCl}_4$  and  $\text{SiHCl}_3$  by extraction with inorganic acids (95%  $\text{H}_2\text{SO}_4$   
and 85%  $\text{H}_3\text{PO}_4$ ), by complex formation using  $\text{CH}_3\text{CN}$  and  $(\text{C}_6\text{H}_5)_3\text{CCl}$ , fractional  
distillation and absorption on silica gel. The results are the basis of a  
suggested flowsheet for producing  $\text{SiO}_2$ , which reduces to mixing the initial  
silicon tetrachloride with 1.5% of  $\text{CH}_3\text{CN}$  for 3 hours, fractional distilla-

Card 1/2

Production of high-purity synthetic...

S/081/62/000/023/057/120  
B160/B186

tion of the mixture obtained, mixing of the intermediate product with 1% of  $(C_6H_5)CCl$  for 3 hours, fractional distillation of the mixture again, purification in a column filled with silica gel, hydrolysis of the purified  $SiCl_4$ , filtration, washing and calcining of the resulting  $SiO_2$ . ✓

31 references. [Abstracter's note: Complete translation.]

Card 2/2

KRUSHEVSKAYA, T. A.

152 Elektromagnitnaya induktsiya. Lektsiya Po Fizike Dlya Studentov 2-Go Kuksa  
Uskhn Fak. Vzpi. M., 1954. 20 S. S Chert. 20SM. 3.000 Ekz. Bespl--  
(54-54749)

538

SC: Knizhnaya, Letopis, Vol. 1, 1955



9/275/63/000/003/008/021  
A052/A126

AUTHORS: Akerman, Karol', Brafman Marek, Krushevska Ol'ga,  
Krushevski, Klemen

TITLE: Production of high-purity synthetic silicon oxide with the  
purpose of using it in semiconductor engineering

PERIODICAL: Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 3,  
1963, 10, abstract 3B70 (Rept. Inst. badan jadrow. PAN, no.294,  
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TEXT: At first the paper discusses published data relating to  $\text{SiO}_2$   
production by means of silicon tetrachloride hydrolysis, and the methods of  
purifying  $\text{SiCl}_4$  and  $\text{SiHCl}_3$  from admixtures. Experiments are described in  
which radioactive isotopes  $\text{P}^{32}$  and  $\text{Fe}^{59}$  were applied to determining the  
effectiveness of individual processes of  $\text{SiCl}_4$  and  $\text{SiHCl}_2$  purification.  
Further, based on experimental data, the authors developed a technological  
scheme of multistage process of  $\text{SiCl}_4$  purification and of high-purity

Card 1/2

Production of high-purity .....

S/275/63/000/003/008/021  
A052/A126

silicon oxide production for the semiconductor industry, There are 31 references.

B.G.

[Abstracter's note: Complete translation.]

Card 2/2

AKERMAN, Karol; BRAFMAN, Marek; KRUSHEVSKA, Olga (Kruszewska, Olga);  
KRUSHEVSKI, Klemens (Kruszewski, Klemens)

Isotopic investigation of the effectiveness of various methods  
of purifying trichlorosilane and silicium tetrachloride used to  
obtain silicon and silica of high degree of purity. Nukleonika 7  
no.10:635-648 '62.

1. Institut yadernykh issledovaniy PAN, Varshava, Otdel  
Primeneniya izotopov v khimii i khimicheskoy tekhnologii.

**KRUSHEVSKIY, A., dotsent.**

**Professor V.D.Zernov; obituary. *Vis.v shkole* 7 no.2:91 '47. (MLBA 6:11)  
(Zernov, Vladimir Dmitrievich, 1878-1946)**

KRUSHEVSKIY, A.I., dotsont.

Laboratory analysis of the total salt content of boiler water  
without evaporating; the water being tested. Trudy M2BI no.3:  
177-184 1956. (MLRA 10:6)  
(Feed water) (Salts--Analysis)

KRUCHENSKIY, A.V. [Krusheva'kyi, A.V.]

Mean decoding error for an associative code. Top. AN USSR  
no. 6:737-739 '64. (MIRA 17:9)

1. Institut kibernetiki AN UkrSSR. Predstavleno akademikom  
AN UkrSSR V.M.Glushkovym [Glushkov, V.M.].

**"APPROVED FOR RELEASE: 06/14/2000**

**CIA-RDP86-00513R000826810009-7**

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is defined as

$$a_{ij} = |t - j| \quad (i, j = 1, 2, \dots, n) \quad (2)$$

and the average decoding error is

$$\bar{a} = \frac{1}{n} \sum_{i=1}^n \sum_{j=1}^n a_{ij}$$

and the combination is defined as

L 33151-63

ACCESSION NR: AT5003508

matrices  $P(X_m)$ ,  $P(Y_m)$  and of the error matrix  $A(m)$ , to show that for any number of positions  $m$  the average linear error  $Z$  for codes  $X_m$  and  $Y_m$  is identical in the case of a symmetrical channel, but is smaller for the code  $Y_m$  in the case of a nonsymmetrical channel. The difference between the two errors is:

$$Z_{X_m} - Z_{Y_m} = \frac{3}{2 - q_0 - q_1} \left[ 1 - \left( \frac{q_0 + q_1}{2} \right)^{m-1} \right] (r_0 - r_1)^2 = 0.$$

where  $q_0 = 1 - r_0$  and  $q_1 = 1 - r_1$ . Orig. art. has: 48 formulas.

ASSOCIATION: None

RECEIVED: 14 Oct 64

ENCLOSURE

REF CODE: DP

REF SOV: 003

OTHER: 000

Card 3/3

SOV/137-57-11-21430

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 110 (USSR)

AUTHOR: Krushevskiy, A.Ye.

TITLE: On the Choice of Rational Designs for Guides for Broaching Machines (K voprosu o vybore ratsional'nykh konstruktsiy napravlyayushchikh dlya protyazhnykh stankov)

PERIODICAL: Sb. stud. nauchn. rabot. Belorussk. politekhn. in-t, 1957, Nr 3, pp 29-32

ABSTRACT: Calculations are made for the contact rigidity of various types of guides for broaching machines, and these are used to find the most rational guide shape. This proves to be rectangular.

M.Ts.

Card 1/1

BRUSHEVSKIY, A.Ye.

PHASE I BOOK EXPLOITATION

SOV/4580

Minsk. Belorusskiy politekhnicheskiy institut

Detali mashin (Machine Parts) Minsk, Red.-izd. otdel BPI imeni I.V. Stalina, 1959.  
69 p. (Series: Its: Sbornik nauchnykh trudov, vyp. 75) 1,500 copies printed.

Sponsoring Agencies: Ministerstvo vysshego, srednego spetsial'nogo i professional'nogo obrazovaniya BSSR; Belorusskiy politekhnicheskiy institut imeni I.V. Stalina.

Editorial Board: V.N. Treyyer (Resp. Ed.), Doctor of Technical Sciences, Professor; V.I. Butrimovich, Candidate of Technical Sciences, Docent; L.M. Rubenchik, Candidate of Technical Sciences, Docent, and A.I. Zheltonoga, Candidate of Technical Sciences, Docent; Resp. Ed. for this vol.: A.A. Mukhin, Engineer; Ed.: N. Kapranova; Tech. Ed.: Ye. Konchits.

PURPOSE: This collection of articles is intended for technical personnel and scientific workers.

COVERAGE: This is the 75th issue of a series published by the Belorussian Polytechnic Institute imeni I.V. Stalin. The collection contains eleven articles,

Card 1/4

Machine Parts

30V/4580

ten of which are devoted to studies and work related to the life of certain machine parts. The remaining article deals with the power of the lighting installation in a cinematographic apparatus. No personalities are mentioned. References accompany most of the articles. There are 32 references: 30 Soviet, 1 English and 1 German. A short appendix is also included.

TABLE OF CONTENTS:

1. Treyyer, V.N. Short-Time Testing Methods for Determining the Life of Machine Parts	3
2. <u>Krushevskiy, A. Ye.</u> On the Problem of the Calculation of Frame-Type Machine Parts	10
3. Khoteyeva, R.D. The Investigation of Changes in the Smoothness of Surfaces of Ball-Bearing Grooves During Operation	15
4. Blyum, Ye. O. On the Problem of Calculating the Balancing of Piston Engines and on the Prevention of Dangerous Vibrations of Foundations and Shafts With Adjoining Elements	26

-Card-2/4

KRUSHEVSKIY, A.Ye., inzh.

Using Schwarz algorithms in solving problems of bent plates.

Sbor.nauch.trud.Bel.politekh.inst. no.76:63-66 '59.

(MIRA 13:6)

(Elastic plates and shells)

KRUSHEVSKIY, N Ye.

p 3

PHASE I BOOK EXPLOITATION

SOV/4090

Minsk. Belorusskiy politekhnicheskiy institut

Sbornik nauchnykh trudov, vyp. 79 (Collected Scientific Papers of the Belorussian Polytechnical Institute, no. 79) Minsk, Red.-izd. otdel BPI imeni I.V. Stalina, 1959. 94 p. 1,200 copies printed.

Additional Sponsoring Agency: Minsk. Belorusskiy politekhnicheskiy institut.  
Kafedra "Detali mashin."

Editorial Board: V.N. Treyyer (Resp. Ed.), Doctor of Technical Sciences, Professor; V.I. Butrimovich, Candidate of Technical Sciences, Docent; L.M. Rubenchik, Candidate of Technical Sciences, Docent; and A.I. Zheltonoga, Candidate of Technical Sciences, Docent; Eds.: A.G. Blyum, and N.V. Kapranova; Tech. Ed.: Ye.P. Konchits.

**PURPOSE:** This collection of articles is intended for scientific and technical personnel in the machine industry.

**COVERAGE:** The book contains articles on the design, operational properties, and causes of failure of ball bearings. Also discussed is the design of frame and

Card 1/3



Collected Scientific Papers (Cont.)

SOV/4090

housing-type parts for machinery. No personalities are mentioned. References accompany several of the articles.

TABLE OF CONTENTS:

- Treyer, V.N. Methods of Designing Ball Bearings 3  
The author discusses determination of design stresses, distribution of radial load among balls, determination of carrying capacity of single-row bearings under static radial load, and design of single-row bearings for long life.
- Khoteyeva, R.D. Investigation of Changes in Roughness and Microhardness of Inner-Ring Grooves of Ball Bearings During Running-in 18  
The author describes the methods and instruments used in this investigation. Diagrams of changes in roughness and microhardness and microslides of ball-bearing races are presented. The results of the tests are summarized at the end of the article.
- Blyum, Ye.O. Analysis of Causes of Ball-Bearing Failure 30  
The author discusses defects resulting from the inappropriate choice of ball bearings for a given type of work, from improper construction and mounting, from nonuniform load distribution among running elements, from improper lubrication, and from materials used, temperature, and manufacture.

Card 2/3

Collected Scientific Papers (Cont.)

SOV/4090

Krushevskiy, A.Ye. Design of Frame- and Housing-Type Parts

39

The author discusses the application of the theory of elasticity to the design of basic machine parts. The determination of the rigidity of machine parts is also discussed. Information is given on the use of Vlasov's variation method for designing thick- and thin-walled three-dimensional constructions. A sample design of the frame of a horizontal broaching machine is presented.

AVAILABLE: Library of Congress

Card 3/3

VK/pw/gmp  
10-27-60

KRUSHEVSKIY, A. Ye., Cand Tech Sci -- (diss) "Some problems in the calculation of body details of machines." Minsk, 1960. 15 pp with diagrams; (Ministry of Higher, Secondary Specialist, and Professional Education Belorusskaya SSR, Belorusskiy Polytechnic Inst im M. I. Kalinin); 150 copies; price not given; (KL, 25-60, 132)

S/081/62/000/023/057/120  
B160/B186

AUTHORS: Akerman, Karol', Brafman, Marek, Krushevskaya, Ol'ga,  
Krushevskiy, Klemens

TITLE: Production of high-purity synthetic silicon dioxide for use  
in semiconductor technology

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 457, abstract  
23K122 (Rept. Inst. badań jądrow. PAN, no. 294, 1961, 16 pp.,  
illust. [Summaries in Pol. and Ger.] )

TEXT: A review is given of known methods of producing high-purity  $\text{SiO}_2$ .  
 $\text{P}^{32}$  and  $\text{Fe}^{59}$  were used to check experimentally the effectiveness of  
purifying  $\text{SiCl}_4$  and  $\text{SiHCl}_3$  by extraction with inorganic acids (95%  $\text{H}_2\text{SO}_4$   
and 85%  $\text{H}_3\text{PO}_4$ ), by complex formation using  $\text{CH}_3\text{CN}$  and  $(\text{C}_6\text{H}_5)_3\text{CCl}$ , fractional  
distillation and absorption on silica gel. The results are the basis of a  
suggested flowsheet for producing  $\text{SiO}_2$ , which reduces to mixing the initial  
silicon tetrachloride with 1.5% of  $\text{CH}_3\text{CN}$  for 3 hours, fractional distilla-

Card 1/2

S/081/62/000/023/057/120  
B160/B186

Production of high-purity synthetic...

tion of the mixture obtained, mixing of the intermediate product with 1% of  
( $C_6H_5$ )CCl for 3 hours, fractional distillation of the mixture again, ✓  
purification in a column filled with silica gel, hydrolysis of the  
purified  $SiCl_4$ , filtration, washing and calcining of the resulting  $SiO_2$ .  
31 references. [Abstracter's note: Complete translation.]

Card 2/2

107-57-1-12/60

AUTHOR: Krushevskiy, V., Director of a Trade School (Novosibirsk)

TITLE: Radio Club at a Trade School (Radioklub remeslennogo uchilishcha)

PERIODICAL: Radio, 1957, Nr 1, p 9 (USSR)

ABSTRACT: Radio amateur work is described at the Novosibirsk Nr 10 Radio-Engineering Trade School. Over 100 girls study in DOSAAF study groups. Over 40 female radio operators graduated recently from DOSAAF organizations. Among them are mentioned Zina Vasil'kova, K. Lukina, L. Samsonova, and L. Yegorova. An all-voluntary DOSAAF radio club was organized recently; its board includes: Yu. Tychinskiy (foreman), I. Parinov (foreman), A. Dushkin (foreman), N. Raskin (teacher), V. Gulin, and V. Murashkin (foreman). A collective shortwave radio station is being built. Members of the club are helping to install wire-broadcast stations in nearby kolkhozes. There are 2 figures in the article: I. Kolotygin, a teacher of the Trade School, is demonstrating his VHF radio station; N. Raskin is demonstrating his tape recorder.

AVAILABLE: Library of Congress

Card 1/1

PA 153199

KRUSHIN, P.

USSR/Radio - Cables, Radio  
Radiofication

Nov 49

"Underground Radio Lines," P. Krushin, 1 p

"Radio" No 11

In Sal'sk Rayon, Rostov Oblast, 100 kilometers of chlorvinyl-insulated underground cable have been laid in connection with radiofication of collective farms. Describes procedure adopted. Claims method used costs no more than overhead lines and in some cases is even cheaper.

153199

1. TRFT'YAKOV, F. N., ENG., KRUSHINOV, A. G.
2. USSR (600)
4. Valves
7. Operation of spring safety valves. Rab.energ. 2 no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, JANUARY 1953. Unclassified.



GUSEL'NIKOVA, K.G.; KHUSHINSKAYA, N.L.

Changes in the bioelectric activity of some parts of the cerebellum and the motor area of the cerebral cortex during epileptiform seizures produced by sound stimuli. Nauch. dokl. vys. shkoly; biol. nauki no.2:78-82 '58. (MIRA 11:10)

1. Predstavlena kafedroy fiziologii vysshey nervnoy deyatel'nosti Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova. (BRAIN) (ELECTROPHYSIOLOGY) (CONVULSIONS)

KHOLODOV, Yu.A.; KRUSHINSKAYA, N.L.; SHURANOVA, Zh.P.; SHCHERBINA, Z.D.

Comparative physiological data on the differentiation of two positive stimuli. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 6:188-194 '61. (MIRA 14:12)

1. Is Laboratorii sravnitel'noy fiziologii vysshey nervnoy deyatel'-nosti, zav. - L.G.Voronin.  
(CONDITIONED RESPONSE)

21(9)

SOV/76-33-9-11/37

AUTHORS:

Krushinskaya, N. P., Prokurnin, M. A.

TITLE:

Oxidation of Chlorobenzene in Aqueous Solutions Under the Action of  $\gamma$ -Rays

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 9, pp 1954-1961 (USSR)

ABSTRACT:

The present paper is devoted to the hitherto insufficiently investigated process of radiolysis of aqueous chlorobenzene solutions. In addition to phenol and diphenyl, also chlorophenol (ortho-, para-, and meta-isomers) and hydrochloric acid result from this radiolysis (Ref 10). The present paper primarily deals with the quantitative determination of the products yielded by the said radiolysis, with a view to evaluating the possibility of chlorobenzene (I) hydroxylation. In this connection, also the part played by molecular oxygen in the course of the process was investigated, namely, both in the absence of oxygen (II) and with an excess of it (with a continuous flow of (II) through the irradiated solution). The radiation source for the  $\gamma$ -rays was  $\text{Co}^{60}$ , and mixtures of 2 ml (I) and 18 ml water were irradiated. Phenol was determined spectroscopically, (II) and hydrogen (in the gas phase) by combustion,

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SOV/76-33-9-11/37

Oxidation of Chlorobenzene in Aqueous Solutions Under the Action of  $\gamma$ -Rays

peroxides iodometrically as well as by polarography; the chlorine ion concentration was determined nephelometrically. Irradiation under vacuum yields a precipitate containing hydrogenated diphenyl derivatives (chiefly of the non-phenolic type), as was also proven by spectroscopical analyses (carried out by D. N. Shigorin). The absence of hydrogen in the gas phase (after irradiation) together with rising hydrogen content in the mentioned precipitate which exhibits an aliphatic bond C-H, is indicative of a hydrogenation of the benzene ring. Experimental results obtained confirm the assumption that cyclohexadienyl radicals, and not phenyl radicals, are formed in the intermediate stage of the radiolysis of some benzene derivatives in aqueous solutions. It may be observed from the phenol yield that chlorobenzene hydrolysis plays an important part in the phenol formation (Table). Two possibilities of such formation are mentioned, showing that the introduction of substitutes in the benzene ring brings about a basic change in the course of the oxidation process (with respect to phenol). In the case of an oxygen excess, the phenol yield is about trebled, and the amount of hydrogenated diphenyl derivatives

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Oxidation of Chlorobenzene in Aqueous Solutions Under the Action of  $\gamma$ -Rays

SOV/76-33-9-11/37

drops. The names of Ye. V. Baral'ko and L. I. Kartasheva are quoted in the paper. There are 5 figures, 1 table, and 19 references, 5 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva  
(Physico-chemical Institute imeni L. Ya. Karpev, Moscow)

SUBMITTED: February 19, 1958

Card 3/3

81104

S/020/60/132/06/29/068

B004/B005

21.6100

AUTHORS: Baberkin, A. S., Krushinskaya, N. P., Proskurnin, M. A.

TITLE: Influence of Solids on the Process of Decomposition of  $\text{CCl}_4$  in an Aqueous Solution Under the Action of Gamma Radiation

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6, pp. 1329-1331

TEXT: The authors investigated whether the presence of solids accelerates the decomposition of organic substances by gamma radiation in the same way as had been found in Refs. 1-5 for inorganic substances. The experiments were made with a mixture  $\text{CCl}_4 + \text{H}_2\text{O} = 1 : 2$  with additions of 1.4-20% of coal, silica gel,  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$  or  $\text{Cu}_2\text{O}$ . Radiation was effected by  $\text{Co}^{60}$  ( $4.10^{16}$  ev/sec) at  $8 - 10^\circ\text{C}$  while it was possible to pass  $\text{O}_2$  or  $\text{N}_2$  through the mixture. After irradiation, the mixture was separated, the solid substance washed with  $\text{NH}_3$  2 or 3 times, and the concentration of the  $\text{Cl}^-$  ions

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81404

Influence of Solids on the Process of  
Decomposition of  $\text{CCl}_4$  in an Aqueous Solu-  
tion Under the Action of Gamma Radiation

S/020/60/132/06/29/068  
B004/B005

in water, and that of the ammonia solutions, determined potentiometrical-  
ly with  $\text{AgNO}_3$ . Fig. 1 shows the results for various additions of silica  
gel (and without addition). Already 1.4% of silica gel effects an increase  
in the concentration of  $\text{Cl}^-$  ions. Further additions increase the  $\text{Cl}^-$  con-  
centration, but not at a linear ratio. Similar results were obtained with  
other solids. The influence of the character of solids is shown in Fig. 2,  
which reproduces the data for a 7.7% addition of the various substances.  
According to the capacity of increasing the  $\text{Cl}^-$  yield, the order of sub-  
stances is as follows:  $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ ,  $\text{Fe}_2\text{O}_3$ , coal,  $\text{Cu}_2\text{O}$ . The data of Table 1 X  
on the experiments without solids but under bubbling with  $\text{O}_2$  or  $\text{N}_2$  show  
that  $\text{O}_2$  does not influence the  $\text{Cl}^-$  yield. The data of Table 2, however,  
show that  $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ ,  $\text{Fe}_2\text{O}_3$ , and coal increase the  $\text{Cl}^-$  yield in the presence  
of  $\text{O}_2$  only. In the presence of  $\text{N}_2$ , these substances act as a medium ab-  
sorbing the radiation energy but not passing it on to the  $\text{CCl}_4$ -water mix-  
ture. Only  $\text{Cu}_2\text{O}$  increases the  $\text{Cl}^-$  yield also in the presence of  $\text{N}_2$ . These

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Influence of Solids on the Process of  
Decomposition of  $\text{CCl}_4$  in an Aqueous  
Solution Under the Action of Gamma  
Radiation

S/020/60/132/06/29/068  
B004/B005

reactions (apart from  $\text{Cu}_2\text{O}$ ) are explained by activation of oxygen on the surface of the solid substance. This surface reaction is probably dependent on the electric and adsorption properties of the respective substance. There are 2 figures, 2 tables, and 5 references: 4 Soviet and 1 French.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova  
(Physical-chemical Institute imeni L. Ya. Karpov)

PRESENTED: February 17, 1960, by S. S. Medvedev, Academician

SUBMITTED: February 10, 1960

Card 3/3



S/844/62/000/000/046/129  
D287/D307

AUTHORS: Proskurnin, M. A. (deceased), Baberkin, A. S. and Krush-  
inskaya, N. P.

TITLE: The effect of solids on the decomposition of  $\text{CCl}_4$  mixed  
with water, under the effect of  $\gamma$  irradiation

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khi-  
mii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962,  
274-278

TEXT: The present work was aimed at clarifying 1) the behavior of  
different solids in the same organic compound; 2) the effect of so-  
lids in an irradiated mixture on the decomposition of  $\text{CCl}_4$ ; 3) the  
effect of oxygen on the decomposition of  $\text{CCl}_4$ . Conditions of irra-  
diation and the method for the determination of the concentration  
of  $\text{Cl}^-$  ions were identical to those used earlier (DAN SSSR, 132,  
1329 (1960)).  $\text{CCl}_4 - \text{H}_2\text{O} - \text{N}_2$  and  $\text{CCl}_4 - \text{H}_2\text{O} - \text{O}_2$  systems, in the

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The effect of solids ...

S/844/62/000/000/046/129  
D287/D507

presence and absence of solids were irradiated to determine conditions under which solids increase the yield of  $\text{Cl}^-$  ions. Oxygen did not affect the decomposition of  $\text{CCl}_4$ . The following observations were made when the system  $\text{CCl}_4 - \text{H}_2\text{O} - \text{solid}$  was irradiated: in the presence of nitrogen the  $\text{Cl}^-$  ion concentration of all tested solids (except  $\text{CuO}_2$ ) was practically identical with that of irradiated analogous systems which did not contain a solid. The  $\text{Cl}^-$  ion concentration increased in the presence of  $\text{CuO}_2$ , owing to the specific structure of this compound. During the second part of the investigation 7.7% of various types of solids were tested; the yield of  $\text{Cl}^-$  ions increased in the following order in the presence of the listed solids:  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$ , silica gel, C,  $\text{Cu}_2\text{O}$ . Processes occurring in pure  $\text{CCl}_4$  under various conditions or irradiation were also investigated.  $\text{Cl}_2$  and  $\text{C}_2\text{Cl}_6$  were the principal decomposition products of  $\text{CCl}_4$  in  $\text{N}_2$ -containing systems (3.4 and 2.8 mol/100 ev).

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The effect of solids ...

8/844/62/000/000/046/129  
D287/D307

Reaction mechanisms are suggested for the decomposition of pure  $\text{CCl}_4$  occurring in the above systems, in the presence/absence of solids. It is thought that solids do not affect the yield of  $\text{Cl}^-$  ions in the system  $\text{CCl}_4 - \text{H}_2\text{O} - \text{solid} - \text{N}_2$  and that the solids behave as catalysts in the  $\text{CCl}_4 - \text{H}_2\text{O} - \text{O}_2$  system,  $\text{CCl}_3$  radicals and  $\text{O}_2$  being adsorbed at the active centers of the surface. The degree of adsorption is determined by the nature of the solid, i.e. by the total number of free valencies, active with respect to  $\text{O}_2$  and the  $\text{CCl}_3$  radicals. Other reactions may also take place simultaneously, leading to the formation of compounds which may be desorbed. Similar phenomena were observed on irradiating the system  $\text{CCl}_4 - \text{H}_2\text{O} - \text{Cu}_2\text{O}$  in the presence/absence of oxygen. There are 5 figures. ✓

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute im. L. Ya. Karpov)

Card 3/3

KRUSHINSKAYA, N.F.; SHAL'NOV, M.I.

Radiolysis of thymidine. Radiobiologia 4 no.3:360-366 '64.

(MIRA 17:11)

GRANOVSKAYA, M.L.; GRINEV, V.S.; DUZHENKOVA, N.A.; KRUSHINSKAYA, N.P.;  
SAVICH, A.V.

Determination of yields of the radiochemical decomposition of  
tryptophan and guanine by means of mathematical analysis of the  
absorption spectra of solutions. Radiobiologiya 5 no.5:633-  
637 '65. (MIRA 18:11)

KRUSHINSKAYA, N.P.

Formation of peroxides by radiolysis of water solutions  
of some nucleic acid predecessors. Radiobiologiya 5  
no.5:645-651 '65. (MIRA 18:11)



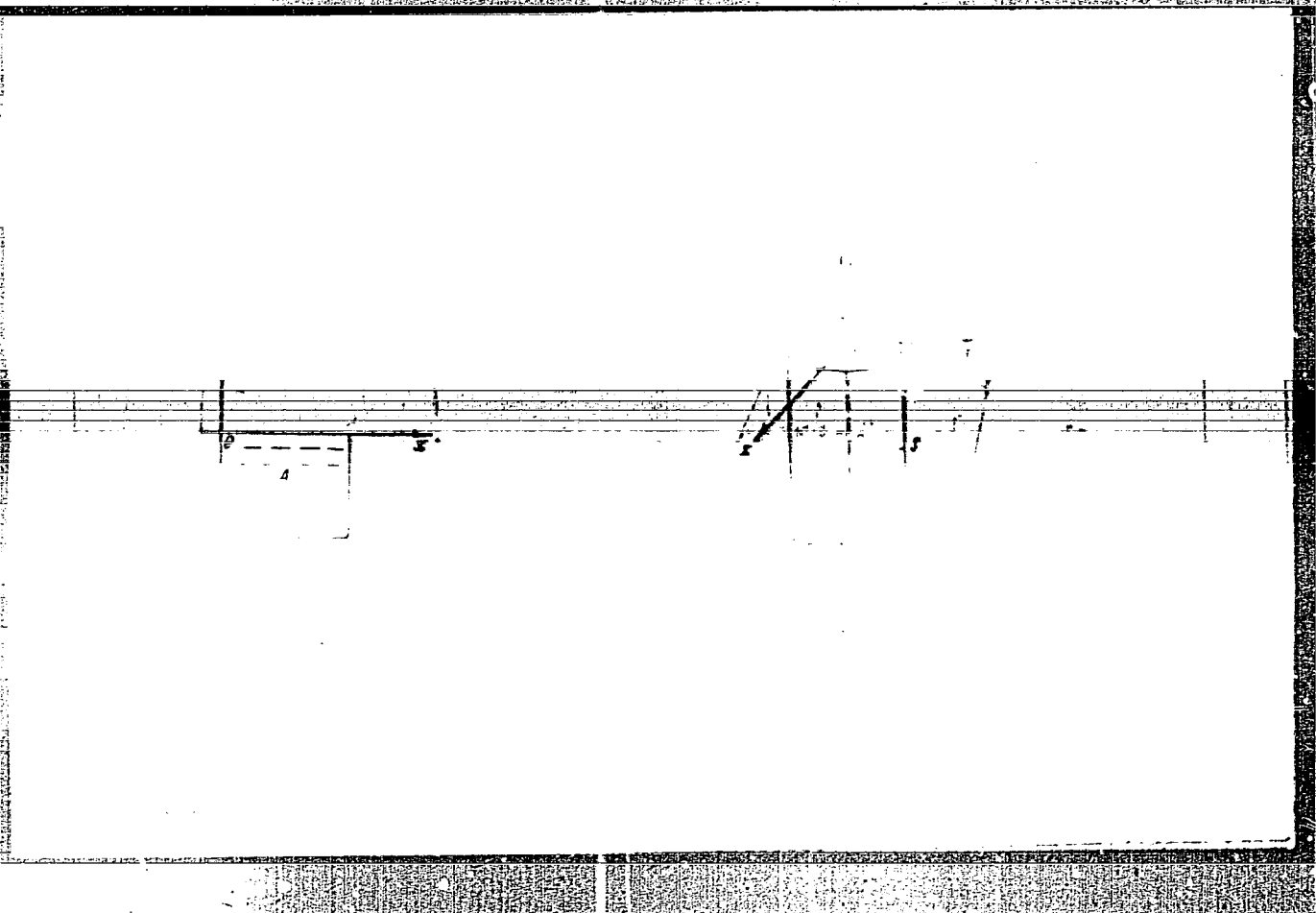
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APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000826810009-7"





KRUSHINSKAYA, Y. A.

Methods for the titration of the avidity of diphtheria

serum. N. I. Vlasovskii, E. A. Krushinskaya and N. R. Finkelstein. *Z. Mikrobiol. Epidemiol. Immuninfektforsch.* (U. S. S. R.) 17, 235 41 (in German 241) (1965). Various serums bind the toxin with different rapidity. The effectiveness of the diphtheria serum does not depend on the antitoxin content but on its quality, as not only the quantity of antitoxin but also the avidity of the serum must be determined. The rapidity of neutralization in sublethal doses in rabbits allows of exact results in avidity determinations. There is no parallelism between the flocculation and neutralization rate, so the former cannot be used as a measure of avidity of the serum. It is possible that after further experimentation the determination of avidity can be made by means of Congo red, providing control analyses are carried out on animals. The degree of avidity of the serum can also be determined by means of the dilution of neutral mixtures with antitoxin. S. A. Karjala

ASH-51.4 METALLURGICAL LITERATURE CLASSIFICATION

Krusinskaya, Ye. A.--"Use of Various Disinfectants as Preservatives in the Preparation of Paratyphus Bacterial Diagnostica," Cand Med Sci Moscow Sci Inst of Vaccines and Sera, Moscow 1953. (REFERATIVNYY ZHURNAL--KHIMIYA, No 1, Jan 54)

Source: SUM 168, 22 July 1954

KUZNETSOVA, T.S.; KRUSHINSKAYA, Ye.A.

Use of bile from swine instead of cattle in preparing liquid  
nutrient media. Lab. delo 7 no.2:50-51 F '61. (MIRA 14:1)

1. Moskovskiy nauchno-issledovatel'skiy institut epidemiologii,  
mikrobiologii i gigiyeny (dir. S.I.Didenko).  
(BILE) (BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

KRUSHINSKAYA, Ye.A.; BOCHIKOVA, V.A.; BIRGER, M.O.

Medium from dried nutrient agar for determining the toxigenicity of diphtheria microbes. Lab. delo 10 no.3:172-175 '64.(MIRA 17:5)

1. Moskovskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii.

5(3)

SOV/80-32-3-24/43

AUTHORS: Bogdanov, M.I., Krushinskaya, Ye.P.

TITLE: The Study of the Process of Separating Butylene-Divinyl Mixtures by the Method of Chemical Sorption (Izucheniye protsessy razdeleniya butilendivinilovykh smesey metodom khemosorbtsii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 603-606 (USSR)

ABSTRACT: The effect of the chemical composition of the solution, the temperature and the divinyl concentration on the sorption capacity of the water-ammonia solutions of copper acetate is investigated here. These solutions were prepared from electrolytical copper in the form of wires of 0.3-0.4 mm in diameter, technical acetic acid of 98.7%, ammonia water with a content of 25%  $\text{NH}_3$  and liquid ammonia. The sorption was tested on mixtures containing 91% divinyl and at a temperature of  $0^\circ\text{C}$ . The sorption capacity is determined by the content of monovalent copper in the solution. If this content is 3.3 g-atom/l, the solubility of divinyl is 4.4 weight percent. At a lower content the solubility decreases. A higher content has only a slight effect on solubility. The solubility of divinyl decreases for

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SOV/BC-32-3/24/63

The Study of the Process of Separating Butylene-Divinyl Mixtures by the Method of Chemical Sorption

its concentration (Figure 2). The effect of the temperature was investigated within the range of from  $-9$  to  $+20^{\circ}\text{C}$ . The solubility increases noticeably with the decrease of temperature.

There are 2 diagrams, 3 tables, 1 graph, and 12 references, 2 of which are Soviet, 5 English, 3 American, 1 German and 1 French.

SUBMITTED: October 19, 1957

Card 2/2

S/064/60/000/007/003/010  
B020/B054

AUTHORS: Bogdanov, M. I. and Krushinskaya, Ye. P.

TITLE: Isolation of Isoprene From Hydrocarbon Mixtures by  
Chemisorption With Copper Salt Solutions

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 7, pp. 10 - 15

TEXT: The most complicated and hitherto insufficiently studied stage of synthesis of isoprene from isopentane is the separation of hydrocarbon mixtures with isolation of highly concentrated isoprene. Extraction, azeotropic and extractive distillation, and chemisorption can be used for this purpose. Selective solvents used for separation by extraction are acetaldehyde, propionaldehyde, propylene oxide, methyl formate, methyl alcohol, citric acid triethyl ester, dimethyl phthalate, furfurole, lactonitrile, ethylene glycol and its monomethyl ester, ethylene glycol mono- and diacetate, ethylene chlorohydrin, aniline, toluidine, phenyl hydrazine, esters of low polyglycols of chlorocarbonic acid, etc. To increase selectivity, it is convenient to add water to the solvents, or to extract hydrocarbon mixtures by a mixture of two immiscible solvents.

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Isolation of Isoprene From Hydrocarbon  
Mixtures by Chemisorption With Copper Salt  
Solutions

S/064/60/000/007/003/010  
B020/B054

The industry used extractive distillation with aqueous acetone combined with a simple rectification. The volatilities of the most important hydrocarbons C<sub>5</sub> (referred to isoprene) mixed with aqueous acetone (80% by volume of the mixture) are compiled. A comparison of these data in Table 1 shows that the volatility of paraffinic and monoolefinic hydrocarbons increases considerably in the presence of aqueous acetone, whereas the volatility of piperylene does not change. Besides acetone, it is possible to use various polar organic compounds containing oxygen, nitrogen, and sulfur (furfurol, pyridine, amines and their mixtures with water, low aliphatic nitriles and their mixtures, dimethyl formamide, dimethyl Sulfolane, etc.). The authors deal with the separating components for the azeotropic distillation, the extractive and simple rectification, the reaction mechanisms, and analyze the reaction products. The most efficient method of separating hydrocarbons C<sub>5</sub> with isolation of highly concentrated isoprene is the chemisorption by aqueous-ammoniacal solutions of salts of monovalent copper. The production of absorption solutions is described. Table 2 indicates the solubility

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Isolation of Isoprene From Hydrocarbon  
Mixtures by Chemisorption With Copper Salt  
Solutions

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of isoprene and isoamylene in aqueous-ammoniacal solutions of  $\text{Cu}^+$  salts of organic acids at  $0^\circ\text{C}$ . The solubility of isoprene and of isoamylene isomers in aqueous-ammoniacal solution of copper salicylate depends on the ammonia concentration (Table 3). The authors studied the effect of the concentration of isoprene on its solubility in a mixture with amylenes isomers obtained by dehydrogenation of isopentane (by 2-methyl-butene-2, and 2-methyl-butene-1) at  $0-50^\circ\text{C}$  for mixtures of different compositions (Tables 4 and 5, and Fig.). The solubility of isoprene does not only depend on the composition of the mixtures but also on the molecular structure of the isoamylene isomer. A practically quantitative desorption of isoprene is attained at  $80^\circ\text{C}$ . Table 6 shows the stability of the absorption solution on heating in ampuls to  $100^\circ\text{C}$ . There are 1 figure, 6 tables, and 54 references: 16 Soviet, 28 US, 8 British, 1 French, and 1 Canadian. ✓

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Isolation of Isoprene From Hydrocarbon  
Mixtures by Chemisorption With Copper Salt  
Solutions

S/064/60/000/007/003/010  
B020/B054

ASSOCIATION: Yaroslavskiy tekhnologicheskii institut (Yaroslavl'  
Institute of Technology). Nauchno-issledovatel'skiy  
institut monomerov dlya SK (Scientific Research  
Institute for Monomers of Synthetic Rubber)

✓

Card 4/4

BOGDANOV, M.I.; KHUSHINSKAYA, Ye.P.

Separation of isoprene from hydrocarbon mixtures by chemisorption  
with solutions of copper salts. Khim. prom. no. 7:538-543  
O-N '60. (MIRA 13:12)

(Isoprene)

(Hydrocarbons)

L 4000-00 EWP(E)/EWI(M)/EWP(W)/I/EWP(T)/EII IJP(C) JD/JL/AT/WH

ACC NR: AP6009575

(N)

SOURCE CODE: UR/0226/65/000/011/0045/0051

AUTHOR: Krushinskiy, A. N.

ORG: Kiev Polytechnic Institute (Kiyevskiy ordena Lenina politekhnicheskij institut)

TITLE: Study of the conditions for obtaining carbide alloys that contain scandium carbide

SOURCE: Poroshkovaya metallugiya, no. 11, 1965, 45-51

TOPIC TAGS: carbide, scandium compound, tungsten carbide, titanium compound, solid solution, hardness

ABSTRACT: Solid solutions of the carbides TiC-ScC display a remarkably high microhardness, as was established by Samsonov et al. (DAN SSSR, 144, 1062, 1962). The sharp increase in microhardness following the dissolution of ScC in TiC is due to the high degree of unoccupancy of the 3d-electron level of the Sc atom, and this has prompted the author to investigate the conditions for obtaining solid solutions of ScC and other carbides of the transition metals. Accordingly, the author investigated the conditions for the formation of the hard carbide alloy WC-ScC by reducing a mixture of  $WO_3 + Sc_2O_3 + C$  in a vacuum ( $13.34 \text{ n/m}^2$ ) at temperatures of from 1000 to 2000° C. It is shown that the optimal conditions should involve the vacuum

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L 45000-06

ACC NR: AP6009575

2

heating of a charge with a stoichiometric composition at 2000°C for 1 hr. The concomitant investigation of the conditions for obtaining the complex WC-ScC-TiC carbides in a vacuum as well as in a hydrogen atmosphere showed that the optimal conditions for obtaining the alloy are: vacuum heating of charge at 2000°C for 1 hr, with the composition of the charge calculated so as to obtain a carbide of the composition  $(TiC, ScC)_{0.16} WC_{0.84}$ , or, on carbidizing in a Tamman furnace -- double heating of the charge  $WC + Sc_2O_3 + TiO_2 + C$  (at 2100°C for 1 hr) and of the charge  $W + Sc_2O_3 + TiO_2 + C$  at 2500°C. These regimes for producing the complex carbides WC-ScC and WC-TiC-ScC may be utilized to produce complex oxygen-free carbide alloys of any composition that contains Sc. Thus, ScC can sharply increase the hardness of the carbides of other transition metals. Orig. art. has: 4 figures and 4 tables.

21

SUB CODE: 13,11/ SUBM DATE: 28Nov64/ ORIG REF: 003

Card

2/2 *egh*

L 31875-66 EWT(m)/ETC(f)/EWP(e)/EWP(w)/ETI/EWP(t)/T IJP(c) AT/WH/GD/JG/JD  
ACC NR: AT6013563

SOURCE CODE: UR/0000/65/000/000/0250/0256 53  
52  
BTI

AUTHOR: Samsonov, G. V.; Makarenko, G. N.; Krushinskiy, A. N.

ORG: Institute of Material Science Problems, AN UkrSSR (Institut problem materialovedeniya AN SSSR); Kiev Order of Lenin Polytechnic Institute (Kiyevskiy ordena Lenina politekhnicheskii institut)

TITLE: Investigation of the condition of formation of solid solutions of carbides involving scandium carbide

SOURCE: AN UkrSSR. Institut problem materialovedeniya. Vysokotemperaturnyye neorganicheskiye soyedineniya (High temperature inorganic compounds). Kiev, Naukova dumka, 1965, 250-256

TOPIC TAGS: solid solution, carbide, scandium, scandium compound, nonferrous metal, tungsten, titanium, carbon alloy

ABSTRACT: The conditions of formation of the WC+ScC solid solutions in the WC to ScC mole ratio from 1:4 to 4:1 were investigated in vacuo in the 1000-2000°C range. The formation of WC+TiC+ScC solid solutions was investigated in vacuo and in hydrogen in the 1000-2500°C range. The solid solution products were examined for

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ACC NR: AT6013563

microhardness. The carbide solid solutions were prepared by reduction of the suitable oxide mixtures by carbon. It was found that the optimum conditions for preparing a solid solution containing 20 mole% ScC and having maximum microhardness are obtained by heating a stoichiometric mixture of oxides with carbon at 1900°C for 1 hr. In the case of reduction in vacuo, the optimum conditions of formation of WC+TiC+ScC solid solutions are: heating of a suitable oxide and carbon mixtures for 1 hr at 2000°C or in the case of carbidization in a Tamman furnace, a two-time heating of a WC+TiO<sub>2</sub>+Sc<sub>2</sub>O<sub>3</sub>+C mixture for 1 hr at 2100°C or heating of a W+Sc<sub>2</sub>O<sub>3</sub>+TiO<sub>2</sub>+C mixture for 1 hr at 2500°C. In general, the mere presence of scandium carbide increases the hardness of the other transition element carbides. Orig. art. has: 1 figure and 4 tables. \b

SUB CODE: 07,11/ SUBM DATE: 03Jul65/ ORIG REF: 002/ OTH REF: 000

Card 2/2 PB



ACC NR: AF6034763

SOURCE CODE: UR/0407/66/000/001/0028/0032

AUTHOR: Samsonov, G. V. (Kiev); Mukha, I. M. (Kiev); Krushinskiy, A. N. (Kiev)

ORG: none

TITLE: Choice of electrode materials for electric spark treatment

SOURCE: Elektronnaya obrabotka materialov, no. 1, 1966, 28-32

TOPIC TAGS: electrode, erosion, electric discharge

ABSTRACT: The experiments described in the article were carried out on a Type A207-12 electric spark unit, under identical conditions for all the electrodes treated; the electrodes had identical working areas. Copper and brass were used as standards for comparison. To determine the relative electro-erosion resistance of materials with different percentages of tungsten carbide, cobalt, copper, and nickel, the coefficient of relative resistance,  $K$ , was calculated by the formula:

$$K = P_2/P_1$$

where  $P_1$  is the weight difference of the electrode before and after the test;  $P_2$  is the weight difference of the treated material before and after the experiment. The chemical composition of the treated electrodes is shown in a table. It is concluded on the basis of the experimental data that, in the choice of materials for fabrication of electrodes, it is necessary to take into consideration the increase in the erosion

Card 1/2

ACC NR: AP6034763

resistance with an increase in the statistical weight of the stabilized configurations, the increase in the energetic resistance of these configurations, and the maximum reduction in the statistical weight of the non-localized electrons. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 11, 20/ SUBM DATE: none/ ORIG REF: 012

Card 2/2

ACC NR: AR6035418

SOURCE CODE: UR/0137/00/000/000/000/0050

AUTHOR: Krushinskiy, A. N.

TITLE: Investigation of the conditions for obtaining hard cutting-tool alloys with uneven distribution of the carbide component

SOURCE: Ref. zh. Metallurgiya, Abs. 9G347

REF SOURCE: Vestn. Kiyevsk. politekhn. in-ta. Ser. mekhan.-tekhnol., no. 2, 1965, 41-46

TOPIC TAGS: metal cutting, carbide, wear resistant sintered alloy, alloy composition, hardness, porosity/ VK-15 alloy, VK-3 alloy

ABSTRACT: The possibility was investigated of producing highly wear resistant hard alloys with uneven structure by sintering briquettes obtained by pressing a charge consisting of a mixture of VK-15 and granules of VK-3. The granules of VK-3 were prepared by tumbling in a drum for twenty minutes a mixture of VK-3 with a 5% solution of latex in benzene. The granules were sintered by freely pouring in a graphite tubular oven under the same conditions as the sintering of the VK-3. The VK-3 crumbs obtained were sifted in fractions from +180 to -56 $\mu$ . A charge containing 15 - 60% crumbs of VK-3 with different fractions and a mixture of VK-15 was compressed under 0.5 ton/cm<sup>2</sup> pressure and sintered in accordance with the VK-8 sintering schedule. The porosity of alloys with 15% crumbs was  $\leq 2\%$ , and increased rapidly with increasing crumb content, reaching 2%. Diffusion equalization of the structure took place during

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UDC: 621.762: 669.018.25

ACC NR: AR6035418

the sintering and slowed down with increasing content of the crumbs in the samples, and also with increasing dimension of the crumb particles. The properties of alloys of different compositions are presented. V. Kvin [Translation of abstract]

SUB CODE: 11

Card 2/2

POZDNYAK, N.Z., kand. tekhn. nauk; KRUSHINSKIY, A.N., inzh.;  
BAL'SHIN, M.Yu., kand. tekhn. nauk, retsenzent;  
MARKIZ, Yu.L., inzh., red.

[Designing and equipping powder metallurgy plants]  
Proektirovanie i oborudovanie tsekhov poroshkovoï me-  
tallurgii. Moskva, Mashinostroenie, 1965. 298 p.  
(MIRA 18:7)

KUDRYASHEVA, Zinaida Nikandrovna; DOROZHKIN, N.A., akademik, red.;  
KRUSHINSKIY, A.S., red.

[Ascomycetes; a methodological manual for correspondence students] Sumchatye griby (Ascomycetes); uchebno-metodicheskoe posobie dlia studentov-zaochnikov. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1962. 53 p. (MIRA 18:9)

ROZENFEL'D, V.Ye., prof., doktor tekhn. nauk; SHEVCHENKO, V.V., kand. tekhn. nauk; MAYBOGA, V.A., kand. tekhn. nauk; TIMONOV, Ye.V., inzh.;  
KRUSHINSKIY, G.A., inzh.

Electric power supply to passenger cars from the overhead contact system. Zhel. dor. transp. 47 no.9:64-68 3 '65. (MIRA 18:9)

ПРИКОТ'КО, А. П.

24(7)

3

PHASE I BOOK EXPLOITATION 307/1365

L'vov. Universitet

Materialy I Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizichnyy sbirnyk, vyp. 1/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gaser, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavitsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabelinskiy, V.A., Doctor of Physical and Mathematical Sciences, Karnitskiy, V.G., Candidate of Technical Sciences, Ryskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanovich, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

- Fominov, I.S. Study of Ion Solvation in Alcohol-  
-aqueous Solutions by Means of Absorption Spectra 213
- Shorygin, P.P., and L.L. Krushinskiy. Dependence of  
the Intensity of Raman Lines on the Excitation-light  
Frequency in the Resonance Range 215
- Kondilenko, I.I., and I.L. Babich. Dependence of the  
Intensity of Raman Lines on the Exciting-light Fre-  
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Interaction and Intensities in Raman Spectra 223
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Temperature on Raman Spectra in Liquids 225
- Mikhaylov, G.V. Effect of Temperatures on the Raman  
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Card 15/30



*Krushinskiy, L. L.*

S/020/60/133/02/23/068  
B019/B060

AUTHORS: Shorygin, P. P., Krushinskiy, L. L.

TITLE: On the Theory of Combination Scattering of Light<sup>1</sup>

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 2,  
pp. 337-340

TEXT: By way of introduction, the authors derive the classical formula (1) and the quantum-theoretical formula (3) for the calculation of the spectral lines of combination scattering. The applicability of these formulas is discussed, and formula (1) is graphically illustrated in Fig. 1. This diagram holds for the classical model of a diatomic molecule with excited states of short lifetime. Similar results are obtained for the quantum-theoretical model, as follows from the analogous diagram in Fig. 2. From the discussion of the formulas derived here and from the diagrams shown the authors conclude that with a decrease in the attenuation of the higher harmonic an approach occurs to that intensity distribution which is observed with resonance fluorescence. Some experimental data are discussed, and it is shown that the intensity of

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On the Theory of Combination Scattering  
of Light

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B019/B060

the lines does not, as often stated, change proportionally with absorption. The observation of a resonance Raman spectrum is said to be restricted by the large absorption losses of light (up to 99% and more). However, the authors note from formulas (1) and (3) that in the region of the strongest absorption bands the conditions for the observation of a resonance scattering are considerably more favorable than in the region of weaker bands. There are 3 figures and 2 Soviet references.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

PRESENTED: March 3, 1960, by I. V. Obreimov, Academician

SUBMITTED: February 29, 1960

Card 2/2

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KRUSHINSKIY, L.L.; SHORYGIN, P.P.

Theory of line intensities in light scattering spectra. Part 1.  
Quantum model (Condon approximation). Opt.i spektr. 11 no.1:24-34  
Jl '61. (MIRA 14:10)  
(Raman effect) (Quantum theory)

KRUSHINSKIY, L.L.; SHORYGIN, P.P.

Theory of the line intensities in Raman spectra. Part 2.  
Quantum model (Taking anharmonicity and deviations from the  
Condon approximation into account). Opt. i spektr. 11  
no.2:151-160 Ag '61. (MIRA 14:8)

(Raman effect)  
(Quantum theory)

89729

S/020/61/136/003/012/027  
B019/B056

24.4500

AUTHORS: Krushinskiy, L. L. and Shorygin, P. P.

TITLE: Consideration of the Oscillating Structure of the Electron  
Excitation Levels of Molecules in the Quantum Theory of  
Light Scatter

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 3,  
pp. 577-580

TEXT: An important part of the quantum theory of light scatter by  
molecules is taken up by the analysis of the contribution of oscillation  
sublevels in the polarizability matrix elements determining the line  
intensities in the spectrum. If as contribution of the  $v$ -th sublevel of  
the electron excitation level of the investigation to the polarizability  
matrix element  $a^{mn}$  (corresponding to the vibrational transition  $m \rightarrow n$ )  
the quantity

$$A_v^{mn} = F(v, v) \langle v | M_{oe}(r) | m \rangle \langle v | M_{oe}(r) | n \rangle \quad (1) \text{ is considered, where}$$

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$$F(\nu, \nu) = \frac{2 \nu_{ev} - \nu_k + 2i\gamma_{ev}}{\nu_{ev}^2 - \nu^2 - \gamma_{ev} + 2i\gamma_{ev} \nu_{ev} - \nu_k (\nu_{ev} - \nu + i\gamma_{ev})}$$

is a frequency factor,  $\nu_{ev}$  - the frequency of transition to the  $v$ -th sublevel of the excited state from the  $m$ -th sublevel of the ground state,  $\gamma_{ev}$  - the width of the  $v$ -th sublevel,  $\nu_k$  the frequency change of a photon in scattering,  $\nu$  - the frequency of the exciting light,  $M_{oe}(r)$  - the momentum matrix element, developed from the electron wave function, and  $r$  the internuclear distance. Thus, the polarizability matrix element may be given with  $a^{mn} = \frac{1}{\hbar\omega} \sum_v A_v^{mn}$  (2). The relation (2) may be obtained from the Kramers-Heisenberg formula, if the complete wave function of a bi-atomic molecule is investigated in adiabatic approximation. The authors confine themselves for simplicity's sake to an excitation level

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and investigate only the diagonal elements of the polarizability tensor.  
In first approximation

$M_{oe}(r) = M_{oe}^0(1 + \eta r)$  (6) is obtained, and thus from formula (1) the

expression  $A_v^{mn} = F(v, v)(M_{oe}^0)^2 \{ (v, m) + \eta(v, rm) \} \{ (v, n) + \eta(v, rn) \}$  (7)

is derived, where  $(v, rm) = \langle v | r | m \rangle$ . For the contributions of the

sublevels in the equation  $A_v^{mn} = F(v, v) M_{oe}^2 B_v^{mn}$  the following expressions  
are obtained by Condon approximation:

$$B_v^{00} = \frac{1}{v!} \left( \frac{\alpha \Delta^2}{2} \right)^v \exp\left(-\frac{\alpha \Delta^2}{2}\right) \left\{ (1 + \eta \bar{r}_0) - \frac{\eta}{\alpha \Delta} v \right\}^2$$

$$B_v^{01} = \frac{1}{v!} \left( \frac{\alpha \Delta^2}{2} \right)^{v-1/2} \exp\left(-\frac{\alpha \Delta^2}{2}\right) \left( \frac{\alpha \Delta^2}{2} v \right) \cdot \left\{ (1 + \eta \bar{r}_0) \left( 1 + \eta \bar{r}_0 + \frac{\eta}{\alpha \Delta} \right) \right\}$$

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$$- \frac{\eta}{\alpha \Delta} (2+2\eta \bar{r}_0 + \frac{\eta}{\alpha \Delta}) v + \frac{\eta^2}{\alpha^2 \Delta^2} v^2 \Big\}$$

$$B_v^{02} = \frac{\sqrt{2}}{2} \frac{1}{v!} \left( \frac{\alpha \Delta^2}{2} \right)^{v-1} \left\{ \left( \frac{\alpha \Delta^2}{2} \right)^2 - 2v \frac{\alpha \Delta^2}{2} + v(v-1) \right\} \exp\left(-\frac{\alpha \Delta^2}{2}\right) \times \left\{ (1+\eta \bar{r}_0) \left( 1+\eta \bar{r}_0 + \frac{\eta}{\alpha \Delta} \right) - \frac{2\eta}{\alpha \Delta} \left( 1 - \eta \bar{r}_0 + \frac{\eta}{\alpha \Delta} \right) v + \frac{\eta^2}{\alpha^2 \Delta^2} v^2 \right\}.$$

It is further stated that the representation of  $M_{oe}(r)$  with (6) is permitted only in a small interval  $r$  which, however, is sufficiently large for calculating  $(v, r_m)$ . If the function  $M_{oe}(r)$  within this range does not change its sign, the Condon approximation represents the contribution of the sublevels. In the opposite case, these contributions of the sublevels change more or less considerably and a bifurcation of the absorption band may occur. Thus, for instance, at  $v = E \left\{ (\alpha \Delta / \eta) (1 + \eta \bar{r}_0) \right\}$  the expression

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for  $B_v^{00} \approx 0$ . These relations are finally discussed in detail. There are  
1 figure and 6 references: 3 Soviet and 2 German.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Institute  
of Physics and Chemistry imeni L. Ya. Karpov)

PRESENTED: July 21, 1960, by A. N. Terenin, Academician

SUBMITTED: July 12, 1960

Card 5/5

KRUSHINSKIY, L.L.; SHORYGIN, P.P.

Some aspects of the classical theory of the resonance transformation of light by molecules. Izv.AN SSSR.Ser.fiz. 27 no.4: 497-502 Ap '63. (MIRA 16:4)  
(Oscillators, Electric) . (Nuclear optical models)

L 11165-63 EWT(1)/BDS--AFFTC/ASD

ACCESSION NR: AP3002785

S/0051/63/014/006/0767/0778

AUTHOR: Krushinskiy, L. L.

TITLE: Contribution to the theory of line intensities in Raman spectra. 3.  
Classical model (convergence of the series approximating the polarization of molecules as a function of the vibrational coordinate)

SOURCE: Optika i spektroskopiya, v. 14, no. 6, 1963, 767-778

TOPIC TAGS: Raman effect, convergence of polarizability series, resonance scattering

ABSTRACT: The Raman effect is usually treated in the simplest variant of classical theory: the appearance of Raman lines (outside the resonance region) is associated with amplitude modulation of the oscillations of the dipole moment, induced by the field of the incident light wave. The author considers a generalization of the basic relation characterizing the spectral expansion of the vibrations of the induced moment, given by the classic theory, and examines the convergence of the power series approximating the dependence of the molecular polarizability on the vibrational coordinate (use is made of the formalism and terminology of spectroscopy of diatomic molecules). The limits of applicability of the simple

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variant of classical theory are noted. The region of convergence of the polarizability series is determined as a function of the frequency of the exciting light and certain parameters characterizing the potential curves of the ground and excited states. Potential curves of different types (curves for non-resonance excitation in the long wavelength region, at the long wavelength absorption edge, at the absorption peak) are discussed. A generalization of the basic relation of polarizability theory is obtained for resonance scattering. It is noted that the conditions for convergence of the polarizability series are significantly impaired in the resonance region. "The author is deeply grateful to P. P. Shorygin for extensive discussions and valuable suggestions." Orig. art. has: 44 formulas and 6 figures.

ASSOCIATION: none

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